

Reference Information

This chapter contains basic reference information about CAMEO: explanations of the functions of CAMEO's menu commands, explanations of how to search for and sort records in CAMEO modules, an overview of the legislation on which CAMEO is based, and a bibliography.

CAMEO's menus

Below are explanations of the functions of each of CAMEO's menu commands.

TABLE 1. CAMEO's Menus and Menu Commands.

| File menu commands: | |
|----------------------------|--|
| Show Navigator | Opens the Navigator (which contains buttons to open CAMEO's modules and perform common tasks). See "The Navigator" on page 25. |
| Open | Select Open , then point to any module name to open that module. |
| Close | Close the current window. |

TABLE 1. CAMEO's Menus and Menu Commands. (Continued)

| | |
|--|--|
| Import\Export | Displays controls you use to import or export data to or from CAMEO. See "Importing and Exporting Data" on page 193. |
| Make Report | Displays controls you use to create reports. |
| Quit (Macintosh) or Exit (Windows) | Quits or exits from CAMEO. |
| Edit menu commands: The Edit menu contains standard FileMaker commands, most of which work in some but not all places in CAMEO (e.g., text-editing commands work within text boxes in CAMEO, but not within lists of records). | |
| Undo | Undoes your most recent text-editing action. |
| Cut | Removes selected text from a text box, and places it in the Clipboard. Available in Edit mode only. |
| Copy | Copies selected text into the Clipboard. Always available. |
| Paste | Pastes the contents of the Clipboard into the currently selected text box. Available in Edit mode only. |
| Clear | Deletes selected text from a text box. Available in Edit mode only. |
| Select All | Selects all the text with in a text box in which you have clicked. Always available. |
| Spelling | Checks the spelling of text in text boxes and Notes fields: select the text, then select Spelling, then Check Selection, from the Edit menu. You can check spelling in either Browse or Edit mode, but you can replace misspelled words only in Edit mode. |
| Preferences | Not functional in CAMEO. |
| Record menu commands: | |
| View List | Displays a list of the records in the current module, in List view. See "List and Record views" on page 26. Available in Record view. |

TABLE 1. CAMEO's Menus and Menu Commands. (Continued)

| | |
|-----------------------------------|---|
| View Record | Displays the selected record in Record view (in List view, click on a record to select it; you'll then see a small black rectangle next to its name). See "List and Record views" on page 26. Available in List view. |
| Next Tab | Brings the next tab forward. Available in Record view only. |
| Show Related | Displays a submenu listing all modules that could be related to the current record. Choose a module name to view all the records in that module that are related to the current record, in List view. See "Using the Show Related command" on page 28. Available in all modules except the Chemical Library. |
| Sort | Choose to sort the records in the current module (or found set) alphabetically, numerically, or chronologically, by one or more data fields. See "Sorting records in CAMEO modules" on page 255. |
| Show All Records | Choose to view all the records in the current module, rather than just the found set of records collected during your most recent search or other activity. You would choose this command after you had finished working with a search. |
| New <module name> | Creates a new record in the current module. (E.g., in the Facilities module, choosing New Facility creates a new Facility record.) Available in all modules except the Chemical Library. |
| Edit <module name> | Allows you to edit the current record. (E.g., while you're viewing a record in the Incidents module, choose Edit Incident in order to edit that record.) Available in all modules except the Chemical Library. |
| Delete <module name> | Deletes the current record, along with subordinate ("child") records in other modules. (E.g., when a Facility record is the current record, choosing Delete Facility deletes not only that record but also all Chemicals in Inventory, Screening and Scenarios, and Incidents records for that facility, as well as all Contacts records for that facility that aren't also associated with another facility or organization.) Available in all modules except the Chemical Library. |
| Delete All Records | Deletes all the records from the current module. Available in all modules except the Chemical Library. |

TABLE 1. CAMEO's Menus and Menu Commands. (Continued)

| | |
|------------------------------------|--|
| Delete All Found Records | Deletes all the records from the current found set. Available in all modules except the Chemical Library, when a found set exists. |
| Add to Reactivity Worksheet | Adds the substance from the current Chemical Library record to the Chemical Reactivity Worksheet. See "Predicting potential chemical reactivity" on page 94. Available only in the Chemical Library. |
| View Reactivity Worksheet | Displays the Chemical Reactivity Worksheet. See "Predicting potential chemical reactivity" on page 94. Available only in the Chemical Library. |
| Go to | Displays a submenu of navigation commands: choose First to view the first record in the current module (or set of found records), Previous to view the record preceding the current one, Next to view the record immediately after the current record, and Last to view the last record in the module. |
| Search menu commands: | |
| Start Search | Initiates a search of the current module. (E.g., in the Chemical Library, choose Start Search to find the record for a particular chemical.) See "Searching" on page 251. |
| Append Search | Choose when you want to broaden a search; that is, to search for more records than you found in a previous search. Any records found in an append search that aren't in the existing set of records found in your previous search will be added to that set of found records. See "Append searches and subset searches" on page 254. |
| Subset Search | Choose when you want to narrow your search; that is, to search through a set of records you found in a previous search, in order to find those that meet more restrictive criteria. See "Append searches and subset searches" on page 254. |
| Clear Search | Allows you to view all the records in the current module, rather than just the found set of records collected during your most recent search. |

TABLE 1. CAMEO's Menus and Menu Commands. (Continued)

| | |
|--|---|
| Sharing menu commands: | |
| ALOHA/Help on ALOHA | Displays an explanation of ALOHA and how it works with CAMEO. For more on ALOHA, see "Using ALOHA with MARPLOT and CAMEO" on page 189. |
| ALOHA/Select This Chemical in ALOHA | Available only in the Chemical Library. Starts ALOHA if it isn't already running, then loads the chemical from the current record into ALOHA if the chemical is in ALOHA's chemical library. |
| ALOHA/Go to ALOHA | Starts ALOHA if it isn't already running, and brings it forward. |
| MARPLOT/Help on MARPLOT | Displays an explanation of MARPLOT and how it works with CAMEO. For more on MARPLOT, see "Using MARPLOT with CAMEO" on page 177. |
| MARPLOT/Show on Map | If the current record is linked to a map object, brings MARPLOT forward with that object visible and selected. In Screening & Scenarios, displays the threat zone (if the associated facility or route is linked to a map object; see "Plotting a threat zone on a map" on page 148). |
| MARPLOT/Show All on Map | If multiple records in the current module or found set are linked to map objects, brings MARPLOT forward with those objects visible and selected. |
| MARPLOT/Unlink | If the current record is linked to a map object, unlinks that record and object. Always unlinks just one record at a time, even if multiple records have been found in a search. See "Deleting a map link" on page 188. |
| MARPLOT/Delete Scenario Object | Available only in Screening & Scenarios. Deletes the threat zone map object linked to the current or selected Screening and Scenarios record. See "Working with threat zones on maps" on page 149. |
| MARPLOT/Delete All Scenario Objects | Available only in Screening & Scenarios. Deletes all objects on the Scenarios layer in MARPLOT. See "Working with threat zones on maps" on page 149. |
| MARPLOT/Go to MARPLOT | Starts MARPLOT if it isn't already running, and brings it forward. The current or most recent map view is displayed. |

TABLE 1. CAMEO's Menus and Menu Commands. (Continued)

| | |
|--|--|
| LandView/Help on LandView | Choose this submenu command to read an explanation of LandView and how it works with CAMEO. See "LandView®" on page 9. |
| LandView/Go to LandView | Starts LandView if it's installed on your computer and isn't already running, and brings it forward. |
| Scripts menu commands: | |
| Custom Menus | Restores CAMEO's normal menus if they fail to display properly. |
| *** | This command must appear in the menu for CAMEO to function normally, but choosing it doesn't initiate any actions. |
| Window menu: This menu lists the file names of open modules, along with the names of support files that CAMEO needs in order to operate normally, but you won't ever need to work with them directly. Rather than using the Window menu when you need to navigate to a module, use the Navigator, select Open from the File menu, or select Show Related from the Record menu. | |
| Help menu commands: | |
| About Balloon Help | Displayed on Macintosh computers only. |
| Show Balloons | Displayed on Macintosh computers only. |
| CAMEO Help | Opens and displays the CAMEO help table of contents in your web browser. |
| About FileMaker Pro Runtime | Displayed in Windows only. Displays brief explanation of the runtime database program in which CAMEO was created. |
| Link menu commands: This is a temporary menu that is only visible when you have (a) begun linking a MAR-PLOT map object to a CAMEO record (see "Linking map objects to CAMEO records" on page 183), or (b) chosen to adjust the link from a chemical inventory name to a Chemical Library record (see "Using the Adjust Link button" on page 128). | |
| Link this record | Links the selected map object to the current CAMEO record. |
| Cancel | Cancels the link in progress. |

Searching

You can make either a basic search or a more advanced search for the records you want to see in any CAMEO module, as explained below. You also can save the criteria you used for particularly complex searches so that you can rerun them again later.

You'll find more specific instructions about searching the Chemical Library in "Searching for a Chemical Record" on page 78, and about searching for records on particular facilities in "Accessing information about a facility" on page 109.

Making a basic search

Choose to make a basic search when you just need to look up records by name, address, or other straightforward piece of identifying information. Here's how to do a basic search:

1. To start your search, first open the module you want to search, then, from the Search menu, select Start Search.
2. In the Basic Search dialog, fill out the information you have about the record you're looking for.

For your "Operator for text fields," choose "Contains characters" to search for part of a word, phrase, or code; or "Contains word starting with" to search either for the first part of a word, phrase, or code, or for an entire word, phrase, or code.

If you fill in multiple criteria, CAMEO will search for records that match all your criteria.

3. Click Search to start your search.
CAMEO will run the search and then display either a list of the records that match your criteria or a message, "No records found," if no records match your criteria.
4. Double-click the name of any record in the list to view that record.
Whenever you want to return to the list, click the "List" button in the toolbar. If you'd like to view the list of all records in the module again, from the Search menu, select Clear Search.

Searching State Fields. Both Facilities and Chemicals in Inventory records contain a State Fields tab to support the emergency planning work of U.S. states that have developed their own reporting requirements in addition to the Tier II requirements specified in EPCRA (which apply to all 50 states). Tier II forms submitted in those states contain additional data fields, which are called “State Fields” in CAMEO. CAMEO’s State Fields provide a place where people working in these states can maintain their reporting information.

You can search for records for facilities or chemicals in inventories that contain particular information in one or more State Fields. For example, the State of Arizona requires facilities to report whether they are located on Tribal land. To search State Fields,

1. From the Search menu, select Start Search.
2. Click Search State Fields. You’ll see the window for basic state field searches.
3. If the report year and state shown in the window are different from the report year and state you want to search for, click Choose State and Report Year, change the report year and/or the state, then click Select.
You can only search for records with a particular report year and state at one time. If you need to search for records for more than one report year (e.g., for facilities on Tribal lands for which records were created in report years 2000, 2001, and 2002), run a search for one of those years, then run successive Append searches, one for each of the other years. If you need to search for records for more than one state, run a search for one of those states, then successive Append searches, one for each of the other states.
4. Fill out the information you have about the records you’re looking for. For example, if you’re searching for Arizona facilities located on Tribal Lands, search for records for which “Is the facility on Tribal Land?” is “Yes.”
If you fill in multiple criteria, CAMEO will search for records that match all your criteria.
5. Click Search to run the search.

Making an advanced search

You can make an advanced search whenever you need to use other criteria than the ones available for a basic search. Here's how:

1. Start your search just as you would start a basic search, by selecting Start Search from the Search menu of the module you want to search.
2. Click Go to Advanced Search.
3. Click Select field to indicate which data field to search. In some modules, you'll need to click a button to indicate what kind of information you're searching for.
4. In the list of searchable fields, click the name of a field, then click Select.
5. Choose an operator from the popup menu (e.g., "contains characters," "is equal to," or "is greater than").
The operator to choose depends on the search you're making.
6. Type the word, phrase, number, or code to search for in the box.
Leave the box empty if you don't need to type something in—e.g., when you choose an operator like "is empty" or "is not empty."
7. click Search to start your search.

Adding more choices. You can make an advanced search for records that match more than one criterion. To add a second criterion to your search,

1. While you're working in the Advanced Search dialog, click Add a Choice.
2. Follow steps 3 through 6 in "Making an advanced search" to set up the search for that criterion.
3. Indicate whether to search either for
 - records that meet *both* your criteria—click "Search for all of the following (AND search)."
 - records that meet *either* criterion—click "Search for any of the following (OR search)."

Saving searches. You can save any advanced search to reuse later. To save a search, first fill out the Advanced Search dialog with the criteria

choices you'd like to save, and then click Save This Search. Type a name for the saved search, then click Save This Search.

If you've just set up and run an advanced search, your criteria will be saved in the Advanced Search dialog. You then can save that search which you've just completed by returning to the Advanced Search dialog and clicking Save This Search. (To return to the Advanced Search dialog at any time, select Start Search from the Search menu, then click Go to Advanced Search.)

To open and reuse a saved search, in the Advanced Search dialog, click Open Saved Search. From the popup menu of search names, choose a search name, then click Select This Search. The Advanced Search dialog will be filled in with the criteria for this search. You then can click Search to run this reopened search.

Append searches and subset searches

Two commands in CAMEO's Search menu allow you to refine either a basic or advanced search. Once you have run a search and collected a set of found records, there are two ways to continue your search.

In the Search menu, run a second search by selecting either:

- **Append Search.** This *widens* your search. Records found during an append search will be added to the existing set of found records. You might choose to append a search if your first search did not turn up all the records you needed to work with. For example, you might have run a search of the Chemical Library for chemicals with a particular CAS number, then realized that you also wanted to work with the records for chemicals with another CAS number. You would run an append search for the second CAS number in order to obtain a set of records for chemicals with either CAS number.
- **Subset Search.** This *narrows* your search. Only records that were found in the first search and that also are found during your second search will be included in the set of records found in any subset search. You might choose a subset search if your first search turned up too many records, and you needed to narrow down the number of found records. For exam-

ple, if you search the Chemical Library for chemicals that have “Poison” on their DOT placard label, you would find almost 900 records. If you then ran a subset search for chemicals that also have “Oxidizer” on their placard label, you would find just 40 records, all for chemicals that have both “Poison” and “Oxidizer” on their placard.

Sorting records in CAMEO modules

By default, in the Chemical Library, records are shown in List view in alphabetical order by chemical name. In all other CAMEO modules, records are listed in the order in which they were added to the module.

You can change the order of the records in any module by sorting them into a new order. When you do this, the new sort order is retained until you resort the module or unsort it to put the records back in default order (or perform an action such as a search).

You can sort either all the records in a module or just a found set of records (those records that you found by running a search of a module). When you sort just a found set, the sort order of those records is lost when you quit (exit) from CAMEO.

Choosing sort criteria

To sort records, you must choose one or more sort criteria. For example, to sort your Facilities records alphabetically by facility name, you would use facility name as your sort criterion.

You set up a sort and choose your criteria using the Sort dialog (Figure 1). In the Sort dialog, you see a list of the names of data fields that you can use as sort criteria. These names generally are similar to the data field names shown on your CAMEO records, although they don’t correspond exactly, because the names you see in the Sort dialog are internal names used by CAMEO. The names appearing at the top of the list are usually the most useful for sorting records. Many of these names begin with a one- or two-letter prefix indicating the module they are in (for example, “CoFireDistrict” is the Fire District field in Contacts records). Most fields with an

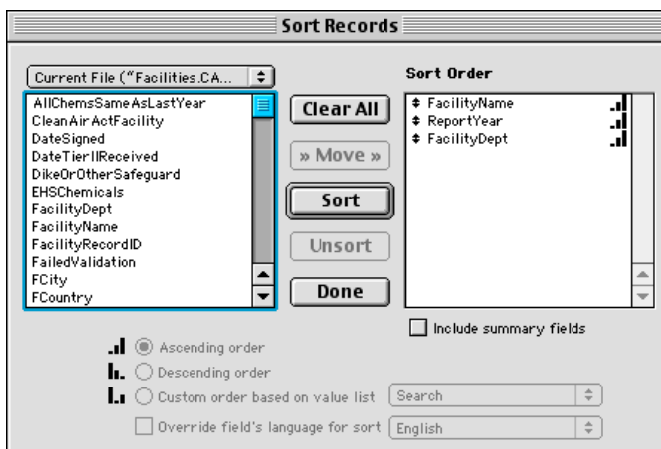


FIGURE 1. CAMEO's Sort dialog. From the left-hand list of sort criteria, you select and move the criteria you want to use into the Sort Order box.

underscore at the beginning of the name (for example, “_Formula”) aren't useful for sorting records (however, a few are), and field names in gray text can't be used as sort criteria.

Table 2 shows the names of some of the sort criteria you may find most useful for sorting each CAMEO module.

Note that choosing some sort criteria may not produce the results you would expect. Here are two examples:

- A given Chemical Library record may contain multiple CAS numbers, stored as a return-delimited list (a list of numbers separated by return characters). Sorting the Chemical Library by CAS number amounts to sorting on the first number in the list, which may not be a particularly meaningful operation.
- Physical properties are stored in the Chemical Library as a combination of several data fields. For example, melting point information is kept in three fields: MeltingPointNote, MeltingPointRange, and MeltingPointValue. For some chemicals, a specific value for the melting point is

stored in the MeltingPointValue data field, while for others, a range is stored in the MeltingPointRange field. If you sort the Chemical Library by MeltingPointValue, making an “ascending” sort so that the smallest values appear first, all records with no MeltingPointValue will appear at the beginning of your sorted list. Among these records would be some for chemicals which in fact have high melting points, stored as ranges.

Table 2: Some CAMEO sort criteria.

| Item to sort | Name of the corresponding sort criterion |
|--------------------------------------|--|
| Chemical Library items: | |
| Chemical Name | OfficialChemicalName |
| DOT Label | DOTLabel |
| EPCRA EHS Chemical | EpcraEhsChemical |
| Chemicals in Inventory items: | |
| Facility/Route Name | _CFacilityRouteName |
| Chemical Name | EnteredChemName |
| Facility Dept. | _CFacilityDepartment |
| Contacts items: | |
| Last Name | LastName |
| First Name | FirstName |
| Organization | Organization |
| Facilities items: | |
| Facility Name | FacilityName |
| Report Year | ReportYear |
| Department | FacilityDept |

Table 2: Some CAMEO sort criteria. (Continued)

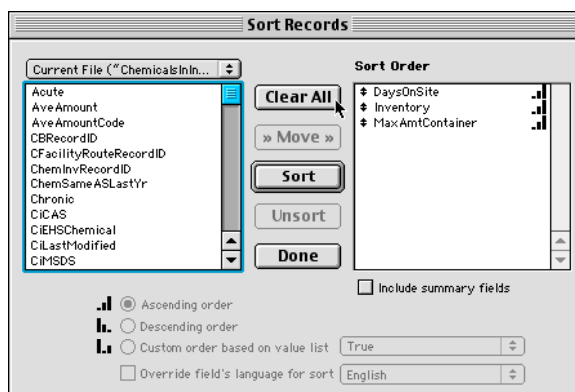
| Item to sort | Name of the corresponding sort criterion |
|---|--|
| Incidents items: | |
| Facility/Route Name | _FacRouteName |
| Incident Name | IncidentName |
| Spilled Date | SpillDate |
| Resources items: | |
| Supplier Name | ResourceName |
| Type | ResourceType |
| Routes items: | |
| Route Name | RouteName |
| Route Type | RouteType |
| Screening & Scenarios items: | |
| Facility/Route Name | _scFacilityName |
| Chemical | EnteredChemName ^a |
| Threat Zone Radius | _RadiusValue |
| Screening | Screening |
| Special Locations items: | |
| Location Name | LocationName |
| Location Type | LocationType |

- a. To choose EnteredChemName as your sort criterion, first change the file setting in the upper left-hand corner of the Sort dialog from “Current File (‘ScreeningAndScenarios’)” to “ChemicalsInInv,” select “EnteredChemName” in the data field list, then click >>Move>>.

Sorting records by a single criterion

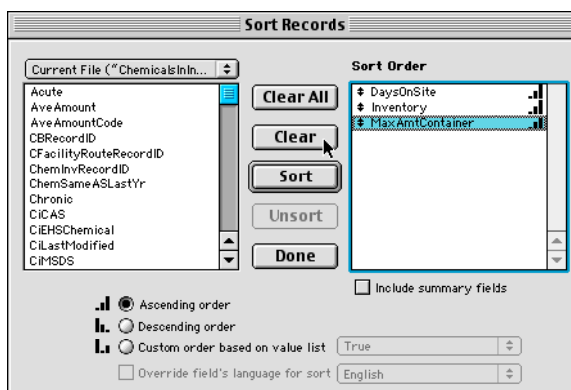
To sort all the records in a module using a single data field—such as chemical name or reporting year—as your sort criterion,

1. Open the module to be sorted.
2. From the Record menu, select Show All Records to clear any existing found set (there will be a found set if you ran a search in the module, unless you cleared your search results).
3. From the Record menu, select Sort. The Sort dialog will be displayed.
4. Choose the data field to use as your sort criterion, as follows:
 - The names of some of the data fields in the module may be listed as sort criteria in the Sort Order box (the box on the right side of the dialog). If you don't want to sort by any of these, click Clear All. In the example below, three Chemicals in Inventory criteria are being cleared.

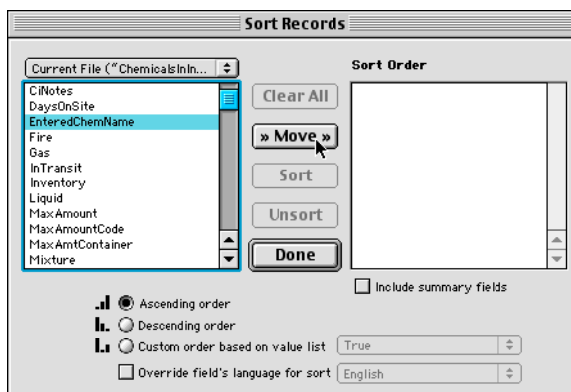


- If one of the criteria in the Sort Order box is the criterion you want to sort by, then click on the name of each other criterion, then click

Clear, until just the criterion you want is listed in the box. In the example below, one criterion is being cleared.



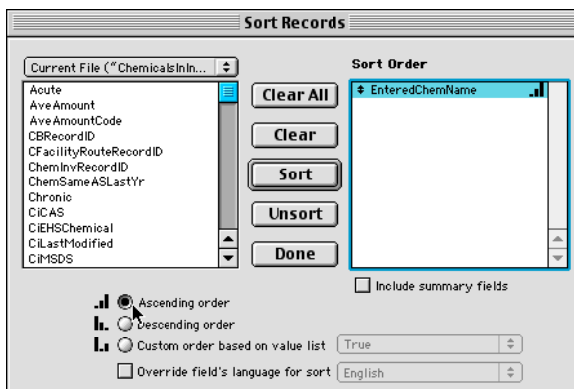
- If the criterion you want to sort by does not appear in the Sort Order box, then, in the list of data field names on the left, click on its name, then click >>Move>> to move it into the Sort Order box. In the example below, the Chemicals in Inventory box will be sorted by Chemical Name (“EnteredChemName”), so this criterion is being moved into the Sort Order box.



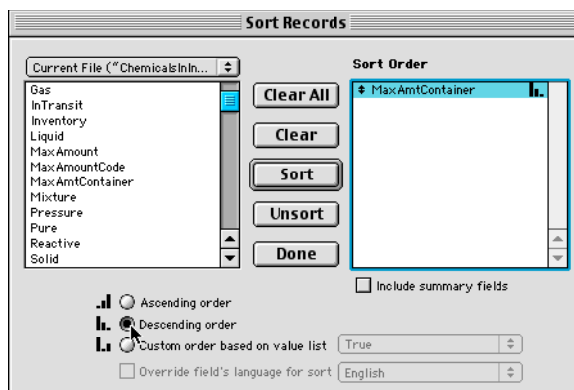
5. Once the Sort Order box contains just the criterion of your choice, then click on the name of your criterion in the Sort Order box to select it and then click either
 - Ascending order, to sort the records alphabetically from A to Z, in numerical order from smallest to largest number, or in date or time

Sorting records in CAMEO modules

order from earliest to latest date or time. In the example below, the Chemicals in Inventory module is being sorted alphabetically by chemical name (“EnteredChemName”).



- Descending order, to sort the records alphabetically from Z to A, in numerical order from largest to smallest number, or in date or time order from latest to earliest date or time. In the example below, the Chemicals in Inventory module is being sorted by Maximum amount in the largest container (“MaxAmtContainer”), so that larger amounts appear higher in the list than smaller amounts.



6. Click Sort to sort the records (or Done if you decide not to sort the records).

Unsorting records

You can unsort the records in any CAMEO module to return them to their original, default order¹, as follows:

1. Open the module to be unsorted.
2. From the Record menu, select Sort. The Sort dialog will be displayed.
3. Click Unsort (or Done if you decide not to unsort the records).

Sorting a subset of records in a module

Sometimes, you might want to sort just some of the records in a module. For example, in the Facilities module, you might need to sort just the records for facilities in the town of Haymarket without sorting the records for facilities elsewhere.

To sort just some records, first search the module to find just the records you want to sort, then sort those records, as follows:

1. From the Search menu, select Start Search.
2. Choose the criteria for your search, making an Advanced Search if necessary, then click Search. (For help setting up searches, see “Searching” on page 251.) When you run a search, a found set of records that meet your criteria is established within the module you’ve searched. You can access and sort only those records until you clear your search.
3. From the Record menu, select Sort.
4. Choose the criteria for your sort, then click Sort. Only the records in the found set will be sorted. In List view, you’ll see just the names of those records, sorted in the order you chose.
5. When you’ve finished working with your sorted records, if you want to clear your search so you can work with all the records in the module, select Clear Search from the Search menu (or Show All Records from the Record menu).

1. In the Chemical Library, the default record order is alphabetical by chemical name. In all other modules, the default is the order in which records were created.

The found set will be cleared, and the found records will revert to their original, default order among the other records in the module.

Sorting by multiple criteria


Sometimes, you might find it useful to use more than one criterion to sort a module. For example, you might want to sort the records in the Contacts module alphabetically by last name. If some of your contacts have the same last names, you also might want to sort the records alphabetically by first name. If you sort this way, “Abe Johnson” would appear in your sorted list ahead of “Sarah Johnson.”

When you use more than one criterion in a sort, arrange your criteria so that the most important criterion appears first in the Sort Order box. In the example above, last name would appear before first name. In that case, your Contacts records will be sorted first by last name and then, within each last name, by first name.

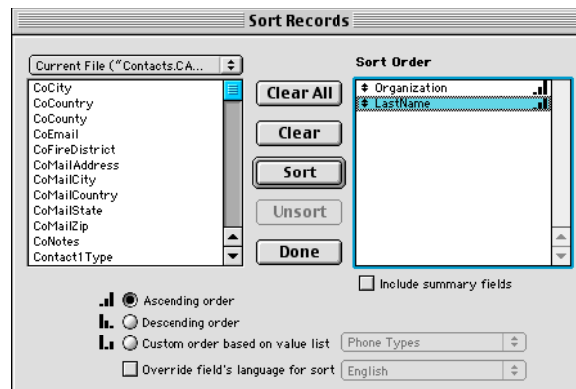
To sort the records in a module using more than one criterion:

- 1.** Open the module to be sorted.
- 2.** From the Record menu, select Show All Records to clear any existing found set (unless you want to sort the found set; a found set exists if you ran a search in the module, and haven’t cleared your search results).
- 3.** From the Record menu, select Sort. The Sort dialog will be displayed.
- 4.** Choose the data fields to use as your sort criteria, as follows:
 - The names of some of the data fields in the module may be listed as sort criteria in the Sort Order box (the box on the right side of the dialog). If you don’t want to sort by any of these, click Clear All.
 - If one or more of the criteria in the Sort Order box are criteria you want to sort by, then click on the name of each other criterion, then click Clear, until just the criteria you want to use are listed in the box.
 - If any of the criteria you want to sort by does not appear in the Sort Order box, then, in the list of data field names on the left, click on the name of each of those criteria, then click >>Move>> to move it into the Sort Order box.

In the Sort dialog, names of data fields generally are similar to the data field names shown on your CAMEO records, although they don't correspond exactly.

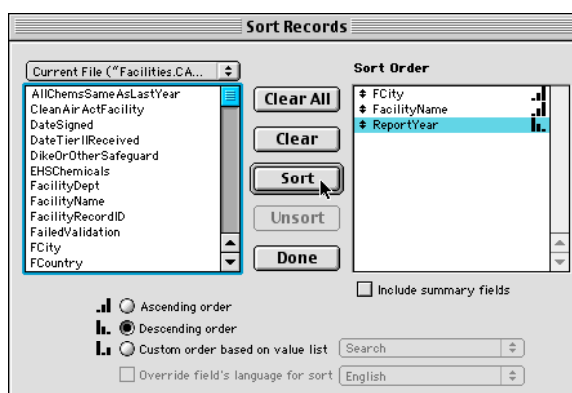
5. Order your sort criteria by their importance: move the most important criterion to the top of the Sort Order list (in the example above, last name is the most important criterion), the next most important to the position just below it, and so on. To move a criterion, click the move button, , to the left of the criterion's name in the list, then drag the button up or down to move the criterion up or down in the list.

For example, you might sort your Contacts records first by Organization (the most important criterion) and then by last name (the less-important criterion), as in the example below (in which "Organization" is above "LastName" in the Sort Order box). Your contacts then will be sorted by organization, with contacts for the same organization listed alphabetically.



6. Once the Sort Order box contains just the criteria of your choice, then click on the name of *each* criterion in the Sort Order box to select it, and then click either
 - Ascending order, to sort the records by that criterion alphabetically from A to Z, in numerical order from smallest to largest number, or in date or time order from earliest to latest date or time. In the example above, Contacts records will be sorted alphabetically by last name.
 - Descending order, to sort the records by that criterion alphabetically from Z to A, in numerical order from largest to smallest number, or in date or time order from latest to earliest date or time.

For example, you might sort your Facilities records (a) in ascending order by city, which orders the list alphabetically by city, (b) in ascending order by facility name, which orders records within cities alphabetically by facility name, and then (c) in descending order by report year, which orders the records for any given facility with the most recent records listed before less recent records. For this example, the Sort dialog would look like the one below.



7. Click Sort to sort the records (or Done if you decide not to sort the records).

Some example sorts

- To sort your Screening & Scenarios records alphabetically by facility/route name, choose “_scFacilityName” as your sort criterion, and sort in ascending order.
- To sort the Chemical Library records so that records for EHSs appear first in the list, with EHSs with the smallest Levels of Concern (LOCs) listed first (a smaller LOC indicates greater toxicity, so the most toxic EHSs would then be listed first): sort first by EpcraEhsChemical, in descending order, and then by LevelofConcern in ascending order.
- To sort the Chemical Library so that you see just the records for EHSs, with those with smaller LOCs listed first: make an advanced search of the Chemical Library for “EPCRA EHS Chemical” is “Yes,” then sort this found set by LevelofConcern in ascending order.

Overview of legislation

CAMEO is designed not only to be an emergency response tool, but to be useful for people who must meet the provisions of the Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986.

EPCRA

EPCRA, also known as Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), establishes requirements for Federal, state, and local governments and for industry for emergency planning and “community right-to-know” reporting on hazardous and toxic chemicals. The community right-to-know provisions of EPCRA are intended to increase public knowledge of and access to information about the presence of hazardous chemicals in their communities and releases of these chemicals into the environment.

EPCRA includes four major sections: emergency planning (Section 301-303), emergency release notification (Section 304), community right-to-know reporting requirements (Sections 311 and 312), and toxic release inventory requirements (Section 313). Under EPCRA, manufacturers and other facilities are required to report accidental releases of hazardous chemicals to state and local officials, and to local fire departments. State and local officials are required to prepare contingency plans for communities where hazardous materials are manufactured, stored, or processed. Records of chemical inventories at facilities, and of accidental and routine chemical spills must be readily available to interested citizens, local and state governments, and local fire departments.

You can learn more about the reporting and planning requirements of EPCRA at www.epa.gov/swercepp/crtk.html or by contacting the Emergency Planning and Community Right-to-Know Information Hotline, 800-535-0202 (in the Washington, D.C. area, dial 703-920-9877), or the nearest regional office of the EPA. You can also review parts of the Code of Federal Regulations (CFR) describing these requirements. The relevant parts are 40 CFR § 300 and 355 (describing Sections 301 to 303 and Section 304 of

EPCRA); 40 CFR § 370 (describing Sections 311 to 312); and 40 CFR § 372 (describing Section 313).

TABLE 3. A snapshot of EPCRA's major sections.

| Sections | Summary |
|--|--|
| Sections 301 to 303: Emergency Planning | Local governments are required to prepare chemical emergency response plans, and to review plans at least annually. State governments are required to oversee and coordinate local planning efforts. Facilities that maintain EHSs (Extremely Hazardous Substances) on-site in quantities greater than corresponding Threshold Planning Quantities (TPQs) must cooperate in emergency plan preparation. |
| Section 304: Emergency Notification | Facilities must immediately report accidental releases of EHS chemicals and "hazardous substances" in quantities greater than corresponding Reportable Quantities (RQs) defined under CERCLA (the Comprehensive Environmental Response, Compensation, and Liability Act) to state and local officials. Information about accidental chemical releases must be available to the public. |
| Sections 311 and 312: Community Right-to-Know Requirements | Facilities manufacturing, processing, or storing designated hazardous chemicals must make Material Safety Data Sheets (MSDSs) describing the properties and health effects of these chemicals available to state and local officials and local fire departments. Facilities must also report, to state and local officials and local fire departments, inventories of all on-site chemicals for which MSDSs exist. Information about chemical inventories at facilities and MSDSs must be available to the public. |
| Section 313: Toxic Chemical Release Reporting | The EPA must maintain records of toxic chemical emissions from certain facilities, and must use this information in research and in preparation of guidelines and regulations. This EPA module is called the Toxic Release Inventory (TRI). Facilities subject to these reporting requirements must submit annual reports of total amounts of chemicals released to the environment (both routinely and accidentally) to the EPA and to state officials. |

Section 301-303: emergency planning. The emergency planning sections of the law are designed to develop state and Federal emergency response and preparedness capabilities through improved coordination and planning, especially within local communities. EPCRA, when enacted, required the governor of each state to designate a State Emergency Response Commission or SERC. Each SERC then designated local emergency planning districts and appointed a Local Emergency Planning Committee, or LEPC, for each district. SERCs have so far designated about 4,000 districts nationwide. Each SERC is responsible for supervising and coordinating the activities of LEPCs, establishing procedures for receiving and processing public requests for information collected in order to meet other provisions of EPCRA, and reviewing local emergency plans.

Each LEPC includes, at a minimum, elected state and local officials, police, fire, civil defense, and public health professionals, environment, hospital, and transportation officials, as well as representatives of facilities subject to the reporting requirements, community groups, and the media. As soon as facilities become subject to the emergency planning requirements, they must designate representatives to participate in the EPCRA planning process.

The LEPC's primary responsibility is to develop a chemical emergency response plan, and to review it at least annually thereafter. In developing a response plan, each LEPC evaluates available resources for preparing for and responding to a potential chemical accident.

Each plan:

- identifies facilities and transportation routes of extremely hazardous substances.
- describes on- and off-site emergency response procedures.
- designates a community emergency response coordinator and facility coordinator(s) to implement the plan.
- outlines emergency procedures.
- describes methods for determining the occurrence of a release and the possible affected area and population.

Overview of legislation

- describes community and industry emergency equipment and facilities and identifies the people responsible for them.
- outlines evacuation plans.
- describes a training program (including schedules) for emergency response personnel.
- presents methods and schedules for exercising emergency response plans.

To assist LEPCs in preparing and reviewing plans, the National Response Team (NRT), composed of fourteen Federal agencies with emergency response responsibilities, published guidance on emergency response planning. This guidance, the *Hazardous Materials Emergency Planning Guide*, was published by the NRT in March 1987 and is online at www.epa.gov/swercepp/p-tech.htm#nrt-1.

Each emergency response plan must initially be reviewed by the SERC and then must be reviewed at least annually by the LEPC. Regional Response Teams (RRT), composed of Federal regional officials and state government representatives, may also review the plans and provide assistance to LEPCs upon request. Planning activities of LEPCs and facilities were to be initially focused on, but not limited to, the 360 extremely hazardous substances (also known as EHS chemicals, or EHSs). However, plans were to be comprehensive, addressing all hazardous materials of concern within each community and covering transportation routes as well as fixed facilities.

Any facility where any of the extremely hazardous substances (EHSs) are present in quantities equal to or greater than threshold planning quantities (TPQs) are subject to these emergency planning requirements. In addition, each state governor or SERC, after a period of public comment, can designate other facilities to be subject to these requirements. A facility must notify the appropriate SERC and LEPC that it has become subject to EPCRA planning requirements within 60 days after beginning to keep on site any EHS chemical in quantities equal to or greater than its TPQ. In addition, the SERC must notify the nearest regional office of the EPA of all facilities subject to these emergency planning requirements, including any facilities designated by either the SERC or governor.

Section 304: emergency notification. Facilities must immediately notify any LEPCs and SERCs likely to be affected by a release into the environment of a listed hazardous substance in an amount exceeding the reportable quantity (RQ) of that substance. Substances subject to this requirement include both the 360 extremely hazardous substances (listed in 40 CFR § 355), or the 725 hazardous substances subject to the emergency notification provisions of Section 103(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (listed in 40 CFR § 302.4). Initial notification can be made by telephone, radio, or in person. Emergency notification requirements for transportation incidents can be met by dialing the 911 emergency number, if possible, or otherwise by calling the operator. Releases of CERCLA hazardous substances must also be reported to the National Response Center (800-424-8802).

Sections 311 and 312: community right-to-know requirements.

Two community right-to-know requirements are included in EPCRA. Section 311 requires each facility that must prepare material safety data sheets (MSDSs) under Occupational Safety and Health Administration (OSHA) regulations to submit either copies of its MSDSs or a list of all on-site MSDS chemicals to the LEPC, the SERC, and the local fire department with jurisdiction over the facility.

If the facility owner or operator chooses to submit a list of MSDS chemicals, that list must include the common or chemical name of each substance and must identify the applicable hazard categories into which each substance falls. These categories are:

- immediate (acute) health hazard
- delayed (chronic) health hazard
- fire hazard
- sudden release of pressure hazard
- reactive hazard

If a list is submitted, the facility must submit a copy of the MSDS for any chemical on the list if requested by the LEPC or SERC.

Also, the EPA has established threshold quantities for hazardous chemicals. A facility is not required to report hazardous chemicals existing on site in quantities below the appropriate threshold. The current Section 311 thresholds are:

- for extremely hazardous substances: either 500 pounds, or the TPQ, whichever is lower.
- for all other hazardous chemicals: 10,000 pounds.

OSHA regulations require all facility owner/operators to maintain or prepare MSDSs for on-site hazardous chemicals, and therefore all existing facilities with hazardous chemicals on site should by now have submitted either lists or MSDSs. Under EPCRA, facilities not previously covered by the OSHA regulations must submit either MSDSs or a list of MSDS chemicals within three months after becoming covered. That is, whenever a facility becomes subject to the right-to-know requirements, it must submit either MSDSs or a list within three months after being required to prepare or have available MSDSs, under OSHA regulations.

Facilities must submit either an MSDS or revised list once they store new, previously unreported hazardous chemicals on site in quantities at or above the established threshold levels. Whenever significant new information about a hazardous chemical becomes available, if MSDSs rather than a list were submitted, an updated MSDS must be submitted.

Under Section 312, each subject facility must submit an annual emergency and hazardous chemical inventory form to the LEPC, the SERC, and the local fire department with jurisdiction over the facility. Hazardous chemicals covered by Section 312 are those for which facilities are required to prepare or have available an MSDS, under OSHA's Hazard Communication Standard, and that were present at the facility in quantities equaling or exceeding threshold quantities at any time during the previous year. These are the same chemicals covered under Section 311.

The EPA has established threshold quantities for hazardous chemicals covered under Section 312. A facility is not required to report hazardous chemicals on site in quantities below the thresholds established for those

chemicals. The current Section 312 thresholds, which are identical to the Section 311 threshold quantities, are:

- for extremely hazardous substances: either 500 pounds or the TPQ, whichever is lower.
- for all other hazardous chemicals: 10,000 pounds.

The inventory form incorporates a “two-tier” approach. Under Tier I, facilities must submit the following aggregate information about chemicals within each applicable hazard category:

- an estimate (in ranges) of the maximum amount of chemicals in each category present at the facility at any time during the preceding calendar year.
- an estimate (in ranges) of the average daily amount of hazardous chemicals in each category present on site during the preceding calendar year.
- the approximate location of hazardous chemicals in each category.

If requested by a LEPC, SERC, or local fire department, a facility also must provide the following Tier II information for each requested substance:

- the common or chemical name of the substance, as indicated on the MSDS.
- an estimate (in ranges) of the maximum amount of the chemical present at the facility at any time during the preceding calendar year.
- a brief description of the manner in which the chemical is stored.
- the location of the chemical at the facility.
- an indication of whether the owner/operator elects to withhold location information from public disclosure.

Since many states impose additional requirements or have incorporated the Federal reporting provisions on their own forms, Tier I/II forms should be obtained from SERCs.

Facilities may choose to submit Tier II rather than Tier I forms, and some states require that Tier II forms be submitted. Individual citizens may also request copies of completed Tier II forms from either a SERC or LEPC. In

such a case, if a Tier II form is not available, it must be requested from the facility. Information submitted by facilities under Sections 311 and 312 generally must be available for public inspection during normal working hours. Facilities must provide Section 311 and 312 information whenever requested, regardless of whether on-site quantities of hazardous chemicals equal or exceed threshold quantities. Completed forms must be submitted by subject facilities on or before March 1 of each year.

Section 313: toxic chemical release reporting. Section 313 of EPCRA requires the EPA to establish and maintain an inventory of toxic chemical emissions from certain facilities. Facilities subject to this reporting requirement must complete a Toxic Chemical Release Inventory Form (commonly known as Form R) for specified chemicals. Toxic Chemical Release Inventory Forms must be submitted to the EPA and to state officials designated by the governor on or before July 1 of each year.

These reports should include descriptions of both routine and accidental releases of hazardous chemicals from subject facilities during the preceding calendar year. The purpose of this reporting requirement is to inform the public about routine releases of toxic chemicals to the environment. The information is also intended for use in research and in the development of regulations, guidelines, and standards.

The Section 313 reporting requirement applies to owners and operators of facilities with at least ten full-time employees, that are in Standard Industrial Classification (SIC) codes 20 through 39, and that manufacture, import, process, or otherwise use at least one listed toxic chemical in excess of specified threshold quantities.

Facilities that manufacture or process any listed toxic chemical in quantities exceeding 25,000 pounds must submit a completed Form R by July 1 each year, describing all releases that took place during the previous calendar year. Facilities using listed toxic chemicals in any other way in quantities greater than 10,000 pounds during a calendar year must submit inventory forms by July 1 of the following calendar year. The EPA has the authority to revise these threshold quantities and to change the SIC codes covered by Section 313.

More than 700 chemicals in more than 20 categories are now included on the list. EPA, through its rule-making authority, can add or remove chemicals from this list. The EPA has so far deleted six toxic chemicals from the Toxic Chemical List.

Inventory reports from facilities must be submitted both to the EPA and to designated state agencies. The EPA has established and maintains a national toxic chemical inventory, called the Toxic Release Inventory (TRI) database, containing the submitted inventory information. Individuals may access this national module electronically, or may obtain included information by several other means.

Other EPCRA provisions. Section 322 of EPCRA addresses the effect of trade secrets on emergency planning, community right-to-know, and toxic chemical release reporting.

Section 325 of EPCRA describes the penalties for failure to comply with the requirements of this law. Civil and administrative penalties ranging from up to \$10,000 to \$75,000 per violation or per day per violation can be assessed facilities that fail to comply with the emergency planning (Section 302), emergency notification (Section 304), community right-to-know (Sections 311 and 312), toxic chemical release (Section 313), and trade secret (Sections 322 and 323) reporting requirements. Criminal penalties of up to \$50,000 or five years in prison may also be assessed any individual who knowingly and willingly fails to provide emergency notification of a hazardous chemical release. Penalties of up to \$20,000 and/or up to one year in prison may be assessed any person who knowingly and willfully discloses any information entitled to protection as a trade secret.

In addition, Section 326 includes provisions allowing citizens to initiate civil actions against the EPA, SERCs, or the owner or operator of a facility for failure to meet the requirements of the emergency planning and community right-to-know provisions of EPCRA. A SERC, LEPC, or state or local government may initiate actions against facility owners or operators for failure to comply with EPCRA requirements. Finally, states may file suit against the EPA for failure to provide trade secret information.

CAA 112(r)

Section 112(r) of the Clean Air Act (CAA) Amendments of 1990 requires EPA to publish regulations focusing on preventing chemical accidents. These new regulations build on the chemical safety work begun under EPCRA, as well as the Process Safety Management regulations of the Occupational Safety and Health Administration (OSHA). While EPCRA requires communities to develop emergency response plans using information on hazardous chemicals provided by local industries, under CAA 112(r), facilities must identify and assess their chemical hazards and carry out certain activities designed to reduce the likelihood and severity of accidental chemical releases. Once information about chemicals is shared among industry, government, and the community, those entities can work to reduce the risks to public health and the environment.

In 1996, EPA published the final rule for CAA 112(r), called the Risk Management Plan Rule (“RMP Rule”) (40 CFR Part 68). A facility owner or operator is subject to the RMP Rule if, in any process at the facility, there is more than a threshold quantity of any of the more than 100 hazardous substances regulated under the rule. If a facility is subject to the RMP Rule, it must perform an offsite consequence analysis to check whether its process puts nearby populations at risk. If it does, the facility must take some steps to manage that risk (these steps are described in the rule).

You can view the text of CAA 112(r) and the RMP Rule, see the list of regulated substances and their threshold quantities, and obtain factsheets and other information related to CAA 112(r), at www.epa.gov/ceppo.

The similarity between the offsite consequence analyses required by the RMP Rule and the hazards analysis procedures required under EPCRA has confused some CAMEO users. The main point to understand is that CAMEO’s Screening & Scenarios module is designed to implement the hazards analysis procedures described in an EPCRA guidance document (*Technical Guidance for Hazards Analysis: Emergency Planning for Extremely Hazardous Substances*), and *not* for offsite consequence analyses (see “What are the differences between Screening & Scenarios, ALOHA, and RMP endpoint distances?” on page 152). For offsite consequence analyses, you can use the RMP*Comp software program, which can be down-

loaded at no cost from www.epa.gov/ceppo/tools/rmp-comp/rmp-comp.html.

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Note: In this Bibliography, a notation in brackets (such as “[ACGIH]”) appearing within a citation indicates that the cited reference served as one of the sources of the chemical data in CAMEO’s Chemical Library (see “Sources of CAMEO’s chemical data” on page 100).

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